

I Claim:

1. A modular sprayjet cooling system for cooling one or more components on a board by spraying the one or more components with a cooling fluid during operation of the one or more components, comprising:

an enclosure defining an internal chamber, the chamber being configured to
5 contain the board, wherein the chamber can be readily opened and closed by hand for external access to the chamber;

an electrical connector located within the chamber, the electrical connector being configured to electrically connect to the board to enable the operation of the one or more components; and

10 a sprayer located within the chamber, the sprayer being configured to spray the one or more components with the cooling fluid;

wherein when the chamber is opened, the board can be readily removed and replaced by hand; and

15 wherein when the chamber is closed, the chamber is sealed such that cooling fluid cannot leak out of the chamber.

2. The modular sprayjet cooling system of claim 1, and further comprising a condenser and a reservoir affixed to the enclosure.

3. The modular sprayjet cooling system of claim 1, and further comprising a condenser that is configured to condense cooling fluid received from a plurality of enclosures.

4. The modular sprayjet cooling system of claim 1, and further comprising:
 - a second sprayer located within the chamber, the second sprayer being configured to spray the one or more components with the cooling fluid; and
 - an adjustment mechanism configured to support the second sprayer at a distance from the board that is adjustable relative to the distance between the first sprayer and the board.
5. The modular sprayjet cooling system of claim 4, wherein the adjustment mechanism includes a bracket that connects the second sprayer to the enclosure.
6. The modular sprayjet cooling system of claim 4, wherein the adjustment mechanism includes a bracket that connects the second sprayer to the board.
7. The modular sprayjet cooling system of claim 1, wherein the sprayer is an incremental sprayer.
8. The modular sprayjet cooling system of claim 7, wherein the sprayer is a thermal inkjet-type sprayer.
9. An electronic device comprising a modular sprayjet cooling system as recited in claim 1.
10. The electronic device of claim 9, and further comprising a second modular sprayjet cooling system as recited in claim 1.

11. A modular sprayjet cooling system for cooling one or more components on a board by spraying the one or more components with a cooling fluid during operation of the one or more components, comprising:

a means for enclosing the board, wherein the means for enclosing can be readily opened and closed by hand for external access to the enclosed board so as to allow the board to be readily removed and replaced by hand;

5 a means for electrically connecting the enclosed board to enable the operation of the one or more components; and

10 a means for spraying the one or more components with the cooling fluid; wherein when the means for enclosing is closed, it is sealed such that cooling fluid cannot leak out of the means for enclosing.

12. A method for cooling one or more components on a board by spraying the one or more components with a cooling fluid during operation of the one or more components, comprising:

enclosing the board in an enclosure, wherein the enclosure can be readily opened and closed by hand for external access to the enclosed board so as to allow the board to be readily removed and replaced by hand, and wherein when the enclosure is closed, it is sealed such that cooling fluid cannot leak out of the enclosure;

5 electrically connecting the enclosed board to enable the operation of the one or more components; and

10 spraying the one or more components with the cooling fluid.

13. A modular sprayjet cooling system for inserting into a bay of an electronic device, the bay having an electrical connector, the modular sprayjet cooling system configured to contain a board having one or more components, and configured for cooling the one or more components with a cooling fluid during operation of the one or more components, comprising:

an enclosure defining an internal chamber, the chamber being configured to contain the board, wherein the enclosure is configured to be releasably inserted into the bay;

a sprayer located within the chamber, the sprayer being configured to spray the one or more components with the cooling fluid;

a first electrical connector located within the chamber, the first electrical connector being configured to electrically connect to the board; and

a second electrical connector located on the exterior of the enclosure, the second electrical connector being in electrical communication with the first electrical connector, wherein the second electrical connector is configured to mate with the electrical connector of the bay to place the board in communication with the electronic device via the first electrical connector;

wherein when the chamber is configured to be sealed such that cooling fluid cannot leak out of the chamber.

14. The modular sprayjet cooling system of claim 13, and further comprising a condenser and a reservoir affixed to the enclosure.

15. The modular sprayjet cooling system of claim 13, and further comprising a condenser that is configured to condense cooling fluid received from a plurality of enclosures.

16. The modular sprayjet cooling system of claim 13, and further comprising:
 - a second sprayer located within the chamber, the second sprayer being configured to spray the one or more components with the cooling fluid; and
 - an adjustment mechanism configured to support the second sprayer at a distance from the board that is adjustable relative to the distance between the first sprayer and the board.
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17. The modular sprayjet cooling system of claim 16, wherein the adjustment mechanism includes a bracket that connects the second sprayer to the enclosure.
18. The modular sprayjet cooling system of claim 16, wherein the adjustment mechanism includes a bracket that connects the second sprayer to the board.
19. The modular sprayjet cooling system of claim 13, wherein the sprayer is an incremental sprayer.
20. The modular sprayjet cooling system of claim 19, wherein the sprayer is a thermal inkjet-type sprayer.
21. An electronic device comprising a modular sprayjet cooling system as recited in claim 13.
22. The electronic device of claim 21, and further comprising a second modular sprayjet cooling system as recited in claim 13.

23. A sprayjet cooling system for cooling one or more components on a board by spraying the one or more components with a cooling fluid during operation of the one or more components, comprising:

a first sprayer configured to spray the one or more components on the board with
5 the cooling fluid;

a second sprayer configured to spray the one or more components on the board
with the cooling fluid; and

an adjustment mechanism configured to support the first sprayer at a distance
from the board that is adjustable relative to the distance between the second sprayer and

10 the board.

24. The sprayjet cooling system of claim 23, and further comprising a second
adjustment mechanism configured to support the second sprayer at a distance from the
board that is adjustable relative to the distance between the first sprayer and the board.

25. The sprayjet cooling system of claim 23, wherein the adjustment mechanism
includes a bracket that connects the second sprayer to the board.

26. The sprayjet cooling system of claim 23, wherein the first and second sprayers
are incremental sprayers.

27. The sprayjet cooling system of claim 26, wherein first and second sprayers are
thermal inkjet-type sprayers.

28. An electronic device comprising a sprayjet cooling system as recited in claim
23.

29. The electronic device of claim 28, and further comprising a second sprayjet
cooling system as recited in claim 23.